



Ask Professor Nescio

Editor's Note: Graduate students, early career faculty, and other mathematicians may have professional questions that they are reluctant to pose to colleagues, junior or senior. The *Notices* advice column, "Ask Professor Nescio", is a place to address such queries. Nomen Nescio is the pseudonym of a distinguished mathematician with wide experience in mathematics teaching, research, and service. Letters to Professor Nescio are redacted to eliminate any details which might identify the questioner. They are also edited, in some cases, to recast questions to be of more general interest and so that all questions are first person. Some letters may be edited composites of several submitted questions. Query letters should be sent to notices@math.ou.edu with the phrase "A question for Professor Nescio" in the subject line.

—Andy Magid

Dear Professor Nescio,

I began a tenure-track position about 1.5 years ago. I will soon be coming up for reappointment and am worried about my publication rate. How do I know if what I've done is enough?

—Counting

Dear Counting,

Professor Nescio regrets to inform you that there is no answer to your question. First, different departments have different attitudes about this with the more enlightened ones deciding that numbers of papers are irrelevant. Perhaps a more accurate statement is that enlightened departments have a core of professors who don't believe in counting, but even in such a department there will be faculty who are of the opposite persuasion. The variety that adorns humanity is such that even where there are majorities of one inclination or the other, the opposite approach will have significant representation. Second, at such an early stage in your career almost all faculty are looking at a variety of other factors to judge you rather than a "rate". (Actually, in my book you haven't been around long enough to establish a publication rate.)

My best advice is to talk to a tenured faculty member about this. Professor Nescio is certain there was some faculty member who wanted the department to hire you in the first place and undoubtedly you know who that is. Believe me, you were not hired out of the blue. If that person occupies the ranks of the socially or verbally challenged, seek someone else to discuss it with. If there is another

colleague you have grown comfortable with, discuss it with him/her. I also wouldn't hesitate to ask the chair, though chairs might be somewhat guarded in this situation unless you are on good terms with him/her. Whomever you approach, ask them this question. Perhaps you might not focus on the publication rate but ask how your case for renewal looks. Ask how your publications measure up to previous cases at your stage of the career.

Surely two good papers in your 1.5 years will get you renewed in most departments, provided the other aspects of your professional life are acceptable—perhaps 1.5 papers or even one. It really depends on how good the papers are. Realize that no one but the most brilliant has more than one good idea in a year, and if you are strict in your definition of "good idea" it might be that one every 5 or 6 years is a sign of excellence. Ask yourself, are 10 two-page notes better than a 40-page paper? Of course not, so don't go that route.

In the final analysis I am afraid it is impossible to give you solace in this situation. Whenever we place ourselves in a situation where we are to be judged, we are bound to be insecure and worry. Even Professor Nescio faced this when his tenure decision approached. Memories of unprecedented headaches are quite vivid in his mind and lead him to empathize with your plight.

If it does comfort you, it is my experience that unless you have really made a botch of your teaching or done no research since you arrived or have physically attacked a respected member of the faculty or any student, the department is likely to renew you. That renewal may come with a warning, but I think most mathematicians will allow you to have a fair shot at getting tenure.

—Good luck,
Professor Nescio

Professor Nomen Nescio is a pseudonym for the Notices advice columnist. Questions for the Professor may be sent to notices@math.ou.edu.

Dear Professor Nescio,

I am in my first year of a postdoc at a large university. My teaching load seems to be quite heavy compared to the tenure-track faculty. For example, I am teaching very large sections of calculus while I see others are teaching upper-level classes to a handful of students. Is there anything I can do to make my teaching load better for next year?

—*Burdened*

Dear Burdened,

Your letter touches a special place in Professor Nescio's heart—the plight of the recent Ph.D. It saddens him that there are those in our noble profession who would make life difficult for the novice in order to make their lives easier. Perhaps he should be more generous and only compare this to a variant of the fraternity initiation where the newcomer is subjected to a ritualistic hazing before being accepted into the clan. Perhaps this is an intellectual version of what street gangs do before admitting someone—the whole gang indulges in beating and kicking the applicant. Surely this does not reflect well on our profession. As a young man Professor Nescio certainly encountered those who seemed to delight in making the path of the newcomer painful and even then he wondered at what went into the making of such mean-spirited personalities. Had it not been for ample counterweights, his view of this profession would certainly have suffered. On the other hand there might be an innocent explanation such as the advanced courses were assigned before you were hired. But Professor Nescio has railed enough about the abuse of the young and the prostitution of the term “postdoc” in a previous column for him to continue in this line in the present missive. So he must now take a deep breath, overcome his irritation, and focus on your question.

My primary advice is that you should speak up. I would talk to your mentor at this department, assuming that you have acquired such a relationship. I would also talk to the chair. (Usually it is the chair or a faculty committee that determines who will teach the advanced courses.) In most departments with which I am familiar a request is made of the faculty to submit teaching requests and you should certainly complete this, though do not assume this will suffice. In each case the approach can be the same: I have paid my dues by teaching large sections of calculus and would like to teach something close to my expertise and at a more advanced level. Do this diplomatically—in other words do not say it as though you are owed this (as my phrasing would seem to suggest) but that this would be a great help in your development as a mathematician.

One hopes that this approach works and with most mathematicians it should. Everyone wants to develop the next generation (well, almost everyone) and teaching an advanced course as well as calculus is definitely part of that evolutionary process that allows the species to advance.

Good luck and happy career.

—*Professor Nescio*

Dear Professor Nescio,

I am studying for my preliminary exams. When looking at old exams, I'm struck by how easy they are some years and how difficult they are other years. My school has a policy that one must obtain a certain percentage on the exam in order to pass. I'm worried about the seeming randomness of the difficulty and about how this may impact my ability to stay in the program.

—*Unsettled*

Dear Unsettled,

What you describe does not surprise Professor Nescio. Exams are written by human beings or possibly a committee. If the author(s) of the exam change from one year to the next, a likely event, the nature of the exam is likely to change as well. The instructions to the authors are likely to consist of a mandate to adhere to the syllabus established for the exam, though this mandate is likely to be more implicit than explicit. Again the variations in the human species come into play here and some will take this task more seriously than others and therefore there will be a wide variation in the difficulty of different exams. By the way, this variation may be paltry when compared to the way the grading of the exams changes from year to year. The point is that even though more is at stake in this exam than a typical Calculus I exam, the effort to assure uniformity in Calculus I is far greater. So what to do?

Study! Study hard. Prepare for the worst. Expect the most difficult problems. Also you might take some comfort that in Professor Nescio's experience this is an area where student perception is often skewed by what they know. You could try to nose around to discover who will be the author. The best bet is that the person(s) who taught the most recent course that closely parallels the exam syllabus will be the exam's author. Perhaps it will be a committee of all those who work in the general area—an unlikely event if the exams do vary in degree of difficulty. But that's the general idea.

The important thing, however, is to not get caught up playing a game of “Guess the author.” Just work your hardest, get a good night's sleep before the exam, and hope for the best.

—*Good luck and happy problem solving,*
Professor Nescio

Dear Professor Nescio,

I am currently a senior undergraduate math major applying to graduate school in mathematics. How do I start finding schools that would be good? How many schools should I apply to?

—*Ready for the Next Step*

Dear Ready,

If ever there was a problem that lacks a unique solution, this is it. Be cautious when you read Professor Nescio's reply. It has been many years since I went through this process. On the other hand I have advised many undergraduates in exactly your situation. So the overriding advice here is to temper the advice in this letter, or from wherever else you get it, with your own instincts and inclinations.

First, be aware that the world of mathematics is vast. You may have been enraptured by your analysis or topology course, but there are many fields in mathematics and the worst thing you can do is to select a school solely because of its reputation in a single area of research. In fact I would advise that you expose yourself to as much mathematics during your first two years of graduate school as is possible. Attend colloquia to become acquainted with other areas. Broadening your horizon is good for many reasons—helping to choose an area for research, preparing you for undergraduate teaching after the degree, and acquainting yourself with areas that might help you in whatever research you do.

Second, be aware that many of your professors may recommend schools that were good when they were in school and possibly have lost their luster. Third, understand that both large departments and small ones have virtues. A large department will offer a far greater variety of courses and expose you to competition with a greater cross-section of mathematical talent. Small departments will spend far greater time with you as an individual—don't feel self-conscious admitting that is important. Fourth, forget about geography. You aren't deciding where to raise a family and sink roots; you are going to school and you will only be there a short time. If another factor is important to you, use it in making your decision. If that something else is music, art, girlfriend, family, let it influence you but don't let it override all else.

As for the number of schools to apply to, I haven't an iota of advice. I would pick a spectrum of departments, however. Try to be as candid as you can about your ability—a trusted faculty adviser might be helpful here, as I have yet to meet a student who had an accurate view of their position in the mathematics world—I have met some who were too humble and some too haughty. Then apply to schools at a slightly higher level than you judge yourself, some at a lower level, and somewhere you feel you will belong.

If you can, visit some schools. If you are accepted and given an offer of support, they may have funds to help defray the cost of the visit—don't hesitate to ask about this. The competition for good graduate students in mathematics is heated. When you visit be sure to talk to the graduate students to get a feel for the place. Ask who their favorite professor is and their worst and why they arrived at that judgment. Ask about the Ph.D. exams, the social life, the advising, everything. This is not a time to be shy. You might also ask these questions of the faculty and compare the answers.

Though Professor Nescio is happy with his place in this profession, there is a part of him that would love to be where you are. It's the start of a grand adventure. Make the most of it.

—*Good luck,*
Professor Nescio

Dear Professor Nescio,

I am in a tenure-track position and will be going up for tenure next year. I have just finished a paper that I think is quite strong. There is a prestigious journal that I think I may be able to get into, but the backlog is quite long. Would it be better for me to publish in a lesser known journal so that I can declare the paper as accepted when I submit my tenure dossier?

—*Ready to Submit*

Dear Ready,

Submit to the strong journal; in the long run this will benefit you the most. In addition, if your department is typical, that paper as a preprint will be sent to your reference writers for review and, if your assessment of it is correct, they will see it is quality work. Further, acceptance of a paper is usually independent of the quality of a journal and so the acceptance may occur before you are up for tenure; that acceptance is more important than the actual appearance.

Understand that it is impossible to predict the reaction of different mathematicians to the same piece of evidence. We are, after all, human beings with different histories and different libraries of experiences. All of your colleagues, like you, would undoubtedly prefer that the paper had appeared. Certainly your dean will feel that way. Some of the faculty in your department may even discount to some extent the fact that it remains a preprint. (This should be very few. We have all had our problems with backlogs.) But true experts, such as your references, will recognize quality when they see it and this will dictate what they write. Your tenured colleagues will then accept their assessment as superior to the assessment of a published paper. It is then up to the department chair to explain to the dean that the references are to be taken seriously and that the nonappearance of the paper is a detail to be overlooked.

Professor Nescio wants to indulge in a bit of circumspection here. Being judged for tenure is a stressful time both for you and your department. Realize that should you not get tenure this will constitute a failure on the part of the department. The department has invested considerably in you. They invested financially in recruiting you and they have invested many dollars and several years nurturing you and developing your talents. This is part of the process of advancing the department. Should you not get tenure they are back to square one. Therefore there is a natural inclination for the department to want to tenure you. Unless you have committed some egregious sin against professionalism, they will not be looking for a reason to deny you tenure.

—Good luck,
Professor Nescio

Dear Professor Nescio,

I submitted a paper eleven months ago but still have not heard whether or not it has been accepted. Is it reasonable for me to contact the editor?

—Timed Out

Dear Timed,

By all means. In fact Professor Nescio will go a step further and say the referee of your paper has been negligent; this judgment also applies to the editor unless he/she has already nudged the referee to move towards a conclusion. To be sure refereeing a paper is one of the more onerous tasks in the profession; from my perspective maybe it's only second from the bottom to grading papers. Unless the paper is squarely in the mathematician's bailiwick, doing a good job of reading a paper and making helpful comments is tiring and bothersome. Nevertheless it is a job we are all called on to do and one needed to make the profession prosper.

So by all means write the editor a polite letter giving the details needed to easily locate the paper. Hopefully this will strike the correct degree of guilt in the referee and produce a quick response. Professor Nescio also hopes this teaches you a lesson for future service to the profession. I hope you prosper and at some time are asked to referee a paper that is in the ballpark of your interests but not exactly there. At that point recall your experience with this paper as well as Professor Nescio's advice and do a conscientious and timely review.

—Good luck,
Professor Nescio



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Department of Mathematics

Professor / Associate Professor / Assistant Professor / Research Associate Professor / Research Assistant Professor (one to two openings)

(Ref. 0809/345(576)/2) (Closing date: March 15, 2010)

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Appointment(s) will normally be made on contract basis for up to three years initially commencing August 2010, leading to longer-term appointment or substantiation later subject to mutual agreement.

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Further information about the University and the general terms of service for appointments is available at <http://www.cuhk.edu.hk/personnel>. The terms mentioned herein are for reference only and are subject to revision by the University.

Application Procedure

Please send full resume, copies of academic credentials, a publication list and/or abstracts of selected published papers together with names, addresses and fax numbers/e-mail addresses of three referees to whom the applicants' consent has been given for their providing references (unless otherwise specified), to the Personnel Office, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong (Fax: (852) 2603 6852) by the closing date. The Personal Information Collection Statement will be provided upon request. Please quote the reference number and mark 'Application - Confidential' on cover.

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